

7

Science Standard
7.3.e.



Responding to
Environmental Change

California Education and the Environment Initiative

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The Education and the Environment Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency
California Natural Resources Agency
Office of the Secretary of Education
California State Board of Education
California Department of Education
California Integrated Waste Management Board

Key Leadership for the Education and Environment Initiative:

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Andrea Lewis, Assistant Secretary for Education and Quality Programs, California Environmental Protection Agency
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Key Partners:

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Lesson 1 **Adapting to Environmental Change**

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Lesson 2 **What Causes Extinctions?**

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Lesson 3 **Human Population Growth and Extinction**

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Lesson 4 **Natural Resources and Extinction**

None required for this unit.

Lesson 5 **Human-Caused Change in Ecosystems**

8	Coastal Dunes	9
9	High Desert	10
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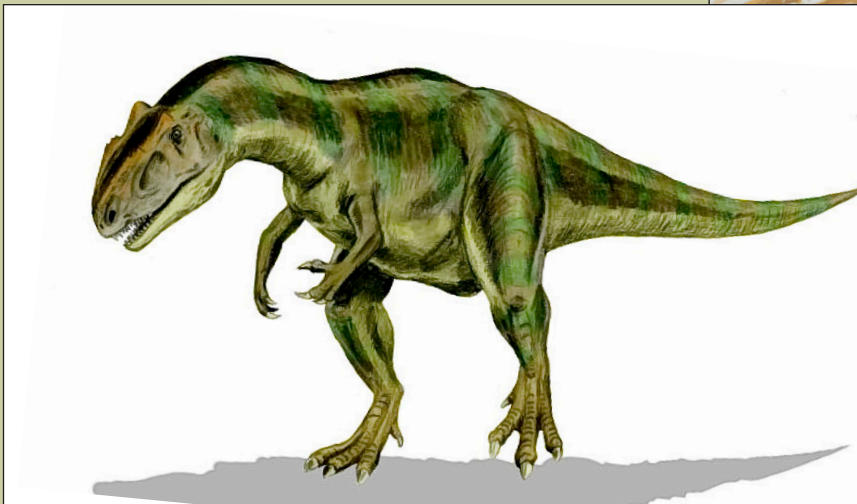
Lesson 6 **When Species Cannot Adapt: A Discussion**

11	Survey Questions	12
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VA #1 Coyote in California



VA #2 Extinct Species



VA #3 Human Population

Which of the choices below represent an estimate of the population for the following areas in 2008?

- World
- United States
- California
- Los Angeles County

a. 10 million

c. 300 million

b. 38 million

d. 7 billion

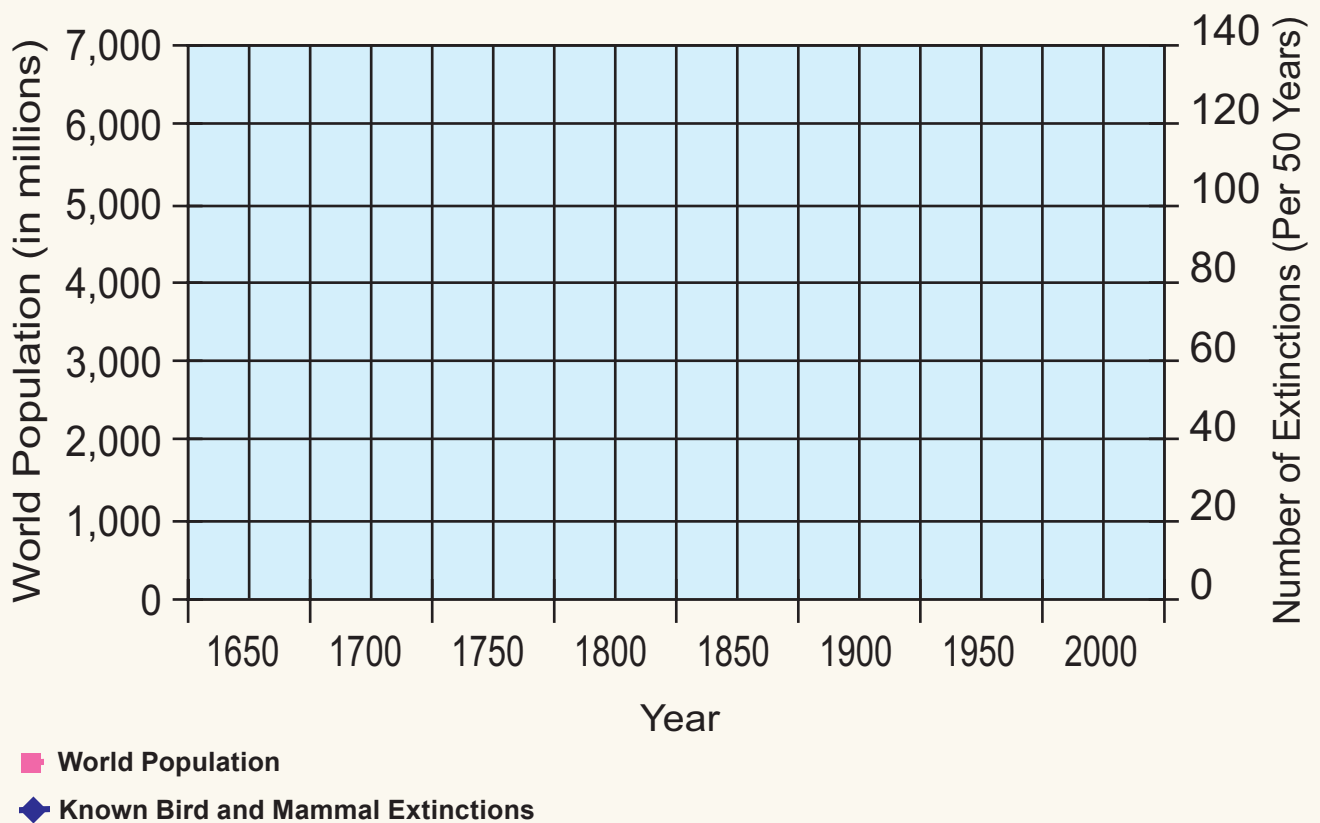
How do you think scientists count the world's human population?

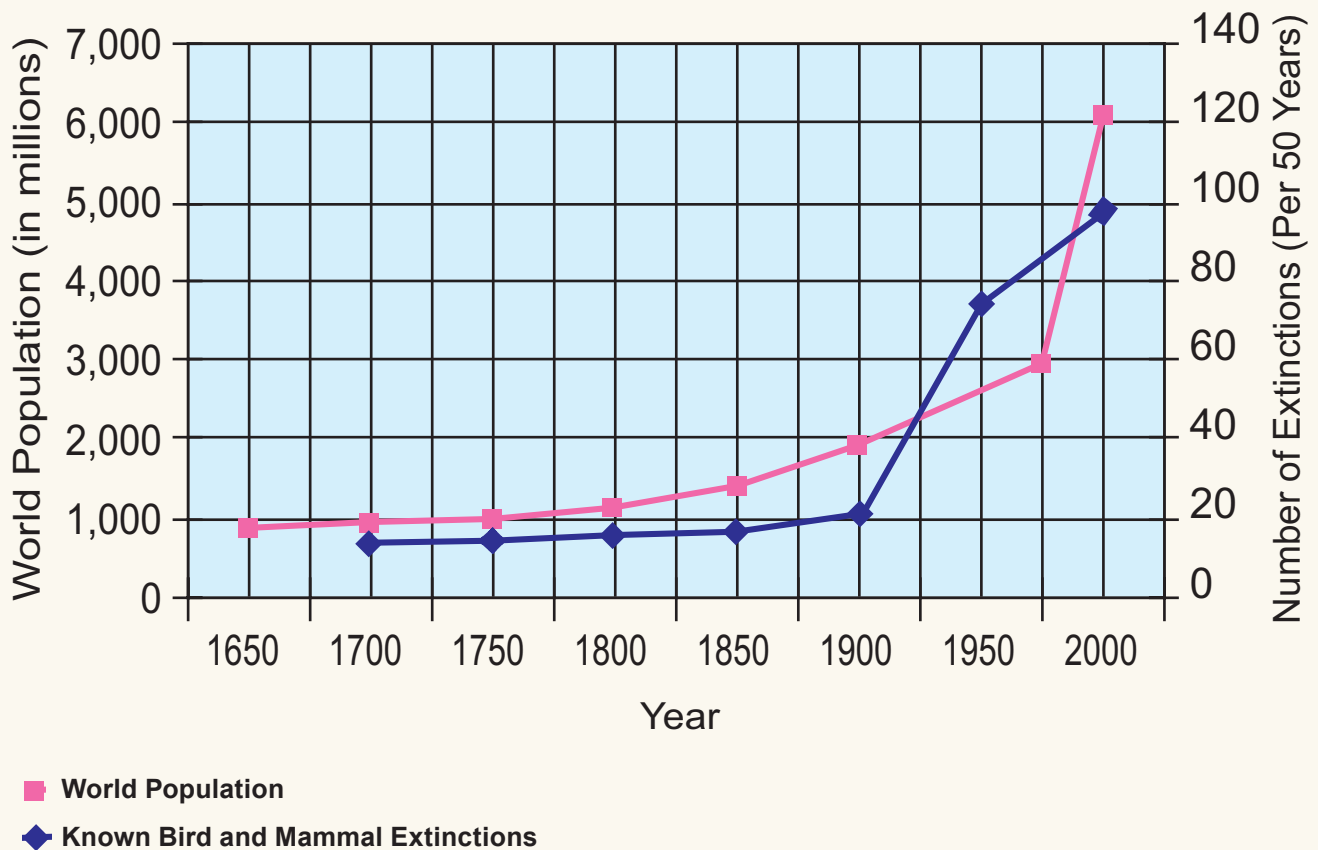
How do scientists predict future population sizes?

- fertility information (birth rates)
- mortality information (death rates)
- rates of immigration (movement to the country)
- census counts (government population counts)

VA #4 Graphing Population Data

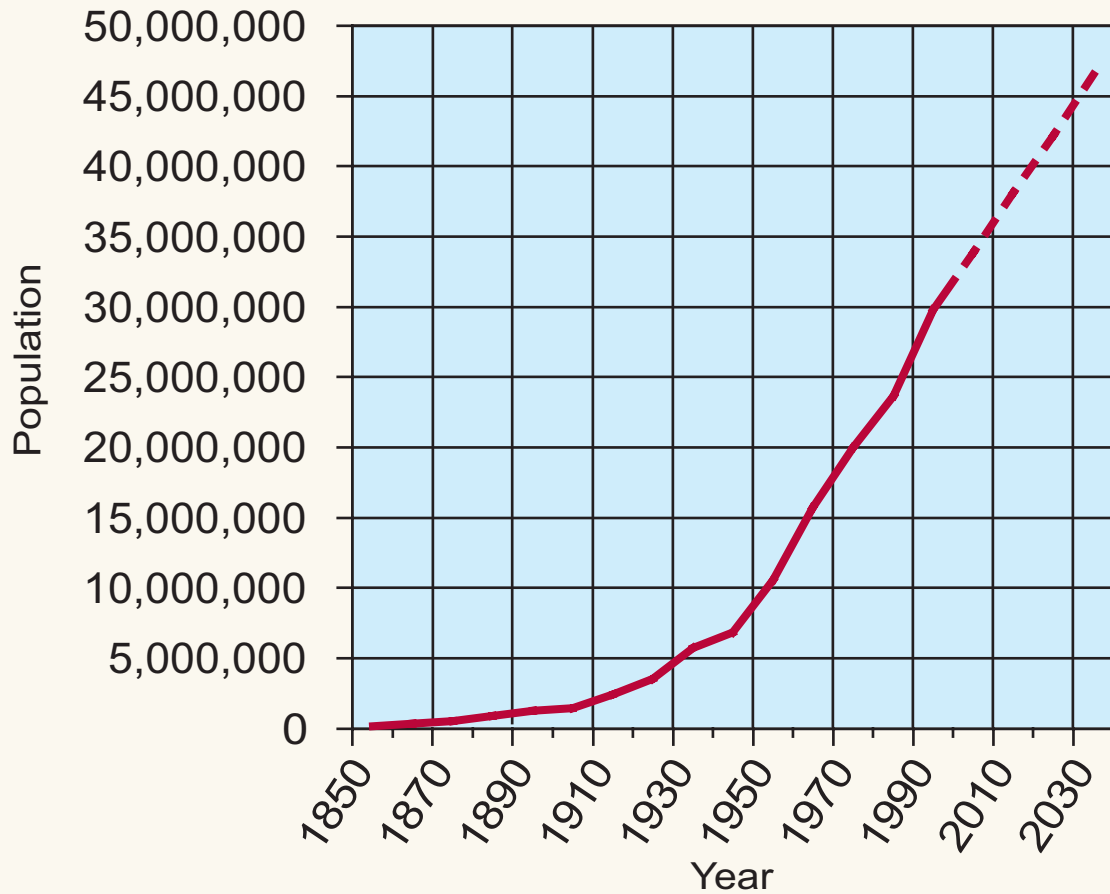
World Population and Known Bird and Mammal Extinctions Since 1650



VA #5 Graphing Population Data Answer Key**World Population and Known Bird and Mammal Extinctions Since 1650**

Source: <http://www.uwsp.edu/geo/faculty/heywood/geog358/endanger.htm>

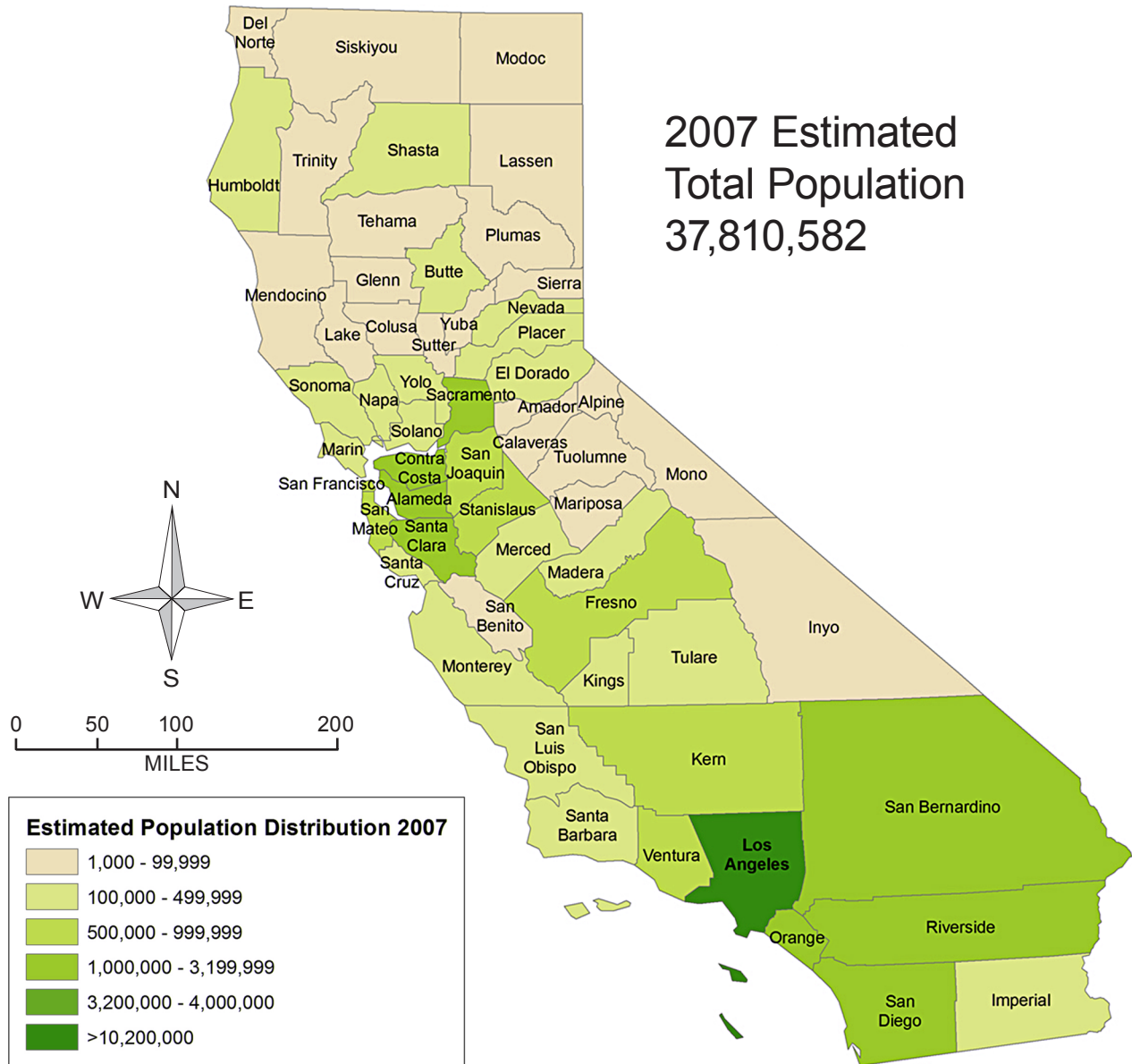
VA #6 California Population Graph



Year	Population	Year	Population	Year	Population
1850	92,597	1920	3,426,861	1990	29,760,021
1860	379,994	1930	5,677,251	2000	33,871,648
1870	560,247	1940	6,907,387	2010	38,067,134
1880	864,694	1950	10,586,223	2020	42,206,743
1890	1,213,398	1960	15,717,204	2030	46,444,861
1900	1,485,053	1970	19,971,069		
1910	2,377,549	1980	23,667,764		

Source: U.S. Census Bureau

VA #7 California Population



VA #8 Coastal Dunes



VA #9 High Desert

VA #10 Kelp Forest

VA #11 Survey Questions

For each statement, hold up one finger if you think the statement is true and two fingers if you think it is false.

1. Ecosystems never change True? False?
2. When a species cannot adapt to environmental changes, it becomes extinct True? False?
3. Human activities always cause animal populations to decrease True? False?
4. Extinction has happened since the beginning of all life True? False?
5. Adaptive species can survive in any ecosystem True? False?
6. Ecosystems where species live are always changing. Species can always adjust to natural changes, but they often cannot survive the changes caused by people True? False?



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